

Air  
Force

# Civil Engineer

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**RED HORSE Update:**  
*in the air and  
on the ground*

*also inside...*

Managing Air Force Assets

Capturing Lessons Learned

Changing the Face of an Island

The 2007 CE Awards

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## On the Cover

*SrA Franklin Rosas, a member of the 554th RED HORSE Squadron's Air Assault team, prepares to rappel out of an HH-60 helicopter.*  
(photo by A1C Daniel Owen)

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## Lessons Learned Are Vital to Our Capabilities

Every time I visit our bases at home and abroad I see talented, hard-working, well-trained civil engineers paving the way for the future not only of our Air Force, but also our nation and the world. As the articles in this issue of the *Air Force Civil Engineer* magazine portray, civil engineers tangibly and positively impact peoples' lives across the globe.

Civil engineers have a central role in supporting our national security goals. Whether it's enabling global engagement by managing the significant infrastructure buildup on Andersen AFB, Guam; building schools and medical clinics in Central America; or operating "outside the wire" to enable construction and repair in Iraq and Afghanistan; our customers consistently remind us that we perform our mission very effectively.

One reason for our success has been our training for these various missions. A fundamental element in maintaining our capabilities is learning what worked and what didn't from those who've come before us. This became the foundation for our training as well as our tactics, techniques, and procedures – our doctrine. Key to making this all work is our "lessons learned" process.

I am a huge believer in lessons learned because they drive how we do our jobs at all levels of our Air Force. We allocate our limited resources based on how we organize, train, and equip, which affects — and is affected by — how we do our jobs. Therefore, it is essential that we do our jobs using the most effective and efficient methods possible. We do this by learning from our predecessors and by using initiative and ingenuity to respond to emerging factors to create new "lessons learned." This is illustrated in this issue's history article on Brig Gen Archie S. Mayes (ret), who greatly influenced today's Air Force civil engineering through his ingenuity and innovation.

The lessons-learned process is a form of continuous transformation, because these lessons drive changes and improvements in business processes. We must ensure that these lessons are available and applied enterprise-wide, which is why I centralized the civil engineer lessons-learned process at AFCESA. You can read more about this in the article on p. 8.

Another reason for our success is that Airmen get the job done with impressive creativity and expertise. These qualities are vital in today's fast-paced world, whether to implement new technology at our garrison bases, or respond to the constantly changing tactics of our enemies in Iraq and Afghanistan.

On a separate note, we said "good bye" to CMSgt Wayne Quattrone, honoring his long, distinguished career at his retirement ceremony in February. I have every confidence, however, in CMSgt Patrick Abbott, who will continue the proud heritage of our CE Chiefs of Enlisted Matters. You can read about him in the article on page 13.

Once again, I sincerely thank you for everything you do for our nation and our Air Force.

**Del Eulberg**  
Major General, USAF  
The Air Force Civil Engineer





*Asset Management covers manmade structures and infrastructure and the natural environment that surrounds them.*

(photo of Elmendorf AFB, Alaska, by SSgt Matthew Rosine)

# Managing Air Force Assets

Maj Gen Del Eulberg, The Air Force Civil Engineer

How would you define the term “Asset Management”?

Googling the term brings up about 28,700,000 results in less than a second. So it's easy to see how the two words “asset” and “management” might mean different things to different audiences. But in reality the term “asset management” has the same underlying meaning, no matter who you are or what business you're in. At its most basic, asset management is a structured, strategic approach for deciding how to optimize assets to gain their maximum performance. That's it.

So why has asset management received so much press over the past five to 10 years in both the private and public sector? There are two primary reasons, one representing challenges and the other opportunities. The challenges: increased pressure from shareholders and taxpayers for accountability and prudent use of scarce resources. The opportunities: powerful new data-analysis technologies that help decision makers maximize the use of those resources.

Our Air Force civil engineer community is faced with the same challenges and opportunities. We're under intense budgetary pressure, with the expectation that we'll wring more performance out of every dollar while still maximizing our renowned installation support. We're also at the cusp of an exciting period where we'll acquire our new civil engineer IT system, Agile Information Management, to replace ACES. AIM will enable us to manage and analyze our data so that we can make wiser investment decisions. We've visited private and public sector organizations that use asset management principles to address these challenges and opportunities, and every single one of them has made tangible, long-term gains in both the efficiency and effectiveness of their production methods or the service they provide. It's time for us to do the same.

You might ask, “Isn't asset management just a new term for the way we've always done business?” I'd answer, “yes and no.” Our engineers have always done a terrific job sustaining our installations as warfighting platforms, but it's never

been easy. There's always more to do coupled with our innate desire to do it better.

One obvious example of asset management is how we manage and use facility space at our bases. We know we have excess or underutilized facility space on our installations, but we don't exactly know how much or where, and it's costing the Air Force millions of dollars in wasted energy as well as operations and maintenance funds. We're working to get a handle on our inventory, and to create space standards and processes that allow us to “shrink from within” our fence lines.

This critical initiative underpins our CE transformation vision of “20/20 by 2020”: achieve efficiencies to offset the 20% reduction in funds available for installation support activities, and reduce the amount of the current Air Force physical plant we spend money on by 20% by the year 2020. For the same reason, we're also ratcheting up our demolition, utilities privatization, and enhanced use lease efforts – all pure asset management moves.

We're trying to optimize not only the assets, but also their impact on the warfighting mission and the actual activities they support. Asset management principles, such as business case analysis to weigh cost, benefits, and risk will help us to fight credibly for scarce dollars and then target them toward optimizing delivery of asset-supported activities. We can no longer afford to allocate resources according to some fair-share, “peanut butter spread” method – asset management is all about a proactive, fact-based approach to analyze data to make the best decisions possible. Our new AIM system will enable this analysis and give leaders at all levels vastly increased visibility into our portfolio and costs.

To give you a glimpse into the realm of the possible, on the next page are three sample scenarios about how CE personnel in the not-too-distant future might take an asset management approach in doing their jobs.



### Scenario one:

The Asset Optimization Team was excited. Looking for cost efficiencies and better ways to support the mission, they had recently finished a comprehensive review of the base's entire installation portfolio. Scrutinizing the data behind the key performance indicators on the unit's dashboard, they had discovered a promising opportunity to achieve the Air Force's goal of increasing the space utilization efficiency of their administrative space by 5%. They proposed moving a small unit out of an older office building and consolidating it with other units in a newer building. The team's financial analyst not only demonstrated that demolishing the old office building would boost space utilization efficiency, but also that the savings in energy and O&M funds would pay for the consolidation in less than three years — a superb return on investment that would compete very well at headquarters for limited facility funds.

During the meeting, the Portfolio Planner mentioned that her routine discussions with off-base parties indicated a growing interest by the private sector in lease opportunities for administrative space on base. Businesses spending their own capital to upgrade the facility would save installation resources; providing cash or "in-kind" services to lease the available facility would then save the Air Force money and provide a steady income stream for other base requirements. With these potential options in hand, the team prepared a business case analysis for leadership review.

### Scenario two:

The base's OPR for the CE activity "Provide Water" was the lead for ensuring that all aspects of this activity are managed and optimized. He coordinated on all aspects of water with other squadron functionals, including operations (infrastructure); environmental (quality); fire (pressure), and design (new projects). An e-mail from the Air Force's subject matter expert for the "Provide Water" activity announced a change to the standard Air Force Level of Service that would result in a higher water quality from new EPA regulations. The "Provide Water" functional team met and quickly concluded that the higher quality standard would mean significantly greater costs for production and testing.

As they studied the Activity Management Plan outlining their long-term strategy for providing water, they realized that it might be more economically feasible to shut down the base's water treatment plant and purchase city water, and then use the resulting savings on several water infrastructure projects to improve their reliability and conservation goals. The AMP already had the current data needed to perform a feasibility and cost analysis: routine O&M costs for all phases of providing water; a prioritized list of projects with cost estimates; and even the depreciated value of the treatment equipment. It outlined the installation's projected water demand for the coming years and any long-term environmental issues. Since the "Provide Water" team uses their AMP as a day-to-day management plan, they always have a real-time picture of any impacts from changes and the necessary information to make the best long-term activity decisions.

## Managing Activities Is Part of Managing Assets

One of the ways we're implementing an asset management approach is by focusing first on activity management of Air Force civil engineering core activities. Let's use a simple example — a water treatment plant — to illustrate what we mean by Activity Management (see figure at right).

A water treatment plant is clearly a physical asset. That physical asset is used simply as a tool to perform an activity, that of providing water. This activity is an end-to-end process — from water source to the end customer.

Why is this distinction so critical? Because when you fixate on the asset, you start to lose focus on exactly what service or support you're providing to a mission/customer. Is optimizing that asset important? You bet it is. However, that asset is just a means to an end. What are you trying to accomplish with the asset? When you take this perspective, you begin to ask a much broader set of questions, such as: *Is this activity necessary? What*

*is the best way to perform/deliver?* It really compels us to think: Why are we doing what we are doing, the way we are doing it?

Associated with that activity is a desired level of service. For example, water should be always available, safe to drink, free of odor, and under adequate pressure to serve the need.

In order to meet the level of service, we must have clear measures and targets that tell us how well we're performing it, such as those examples shown in the diagram. This will allow us to deliberately manage the activity based on the service/support provided, and will provide a framework to raise or lower levels of service based on mission need or resource availability.

We're developing standard Activity Management Plans with levels of service for our core CE activities, and will be testing them for Air Force use over the next six months — stay tuned for more details.

### Scenario three:

A multi-skilled team performed a “retro-commissioning” inspection on an older facility to determine its suitability for the communications squadron’s new mission. The team decided that a new chiller unit was required to handle the new load of sensitive computer equipment and forwarded the material request through an electronic notebook. How did the team know which chiller unit to buy? Because through a central Air Force buy, all bases prepurchase units with “just in time” delivery from the same manufacturer. This not only saves the Air Force 35% over purchases done the old way, it also standardizes design templates, maintenance processes, and training programs.

Months later, CE’s AIM computer system automatically scheduled a preventative maintenance work order for the chiller. The work order was based on a tiered maintenance schedule tied to the facility’s mission criticality, as well as additional analysis by experts from the Air Force Civil Engineer Support Agency on this particular unit. When the craftsman arrived, he scanned the tag on the building with a radio-frequency scanner, pulling down the full maintenance history and current maintenance requirements. During his work, he noticed one of the chiller gauges had a significant out-of-range reading, and recorded this problem on his handheld unit.

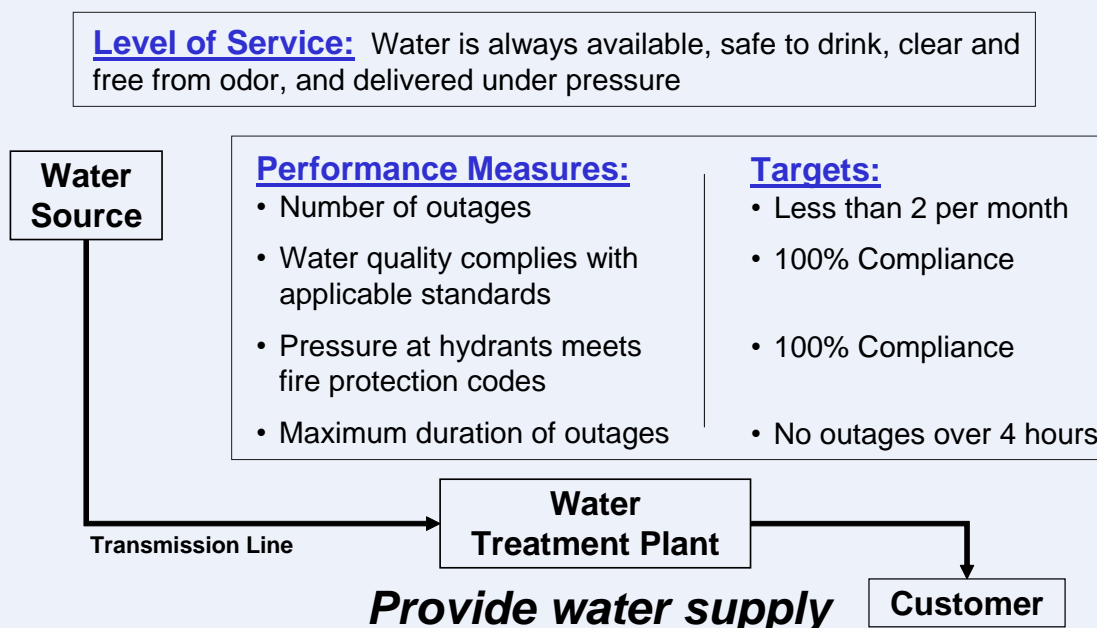
This data on this particular chiller unit becomes part of the Air Force’s centralized, worldwide database, allowing AFCEA experts to monitor and analyze performance. They notice a particular trend with this chiller, and notify the manufacturer to resolve and publish a fix. The craftsman’s maintenance data is also automatically fed back into the

building’s comprehensive O&M summary, instantly updating other key facility factors such as plant replacement value, condition index, Q-rating, and any associated activity management plans.

### Are these scenarios far-fetched fiction?

Absolutely not. They’re very real examples of what is happening today all over the world, and are just a few highlights of where asset management principles, enabled by robust technology, are paying huge dividends. I know that, as a Type A, “Get ‘er done” community, we want to make changes just like these and see immediate improvements. But understand that we’re just beginning our asset management journey; it will be a few more years before we can grow our processes and technologies to maturity.

We are entering an exciting time for Air Force civil engineering and I realize what a monumental challenge it will be to explore and develop our asset management approach even while we’re at war. But I’m convinced that, as a team, we can successfully address both our challenges and opportunities on behalf of our Air Force and our nation. We can’t afford not to!





# *Learning* from Your Experiences

## **HQ AFCESA Assumes Responsibility for AF Civil Engineer Lessons Learned**

MSgt Darius Johnson, HQ AFCESA/CEXX

***The norm for Air Force civil engineer deployments is now rotational individual augmentation and Army ‘in-lieu-of’ deployments to Operations IRAQI FREEDOM and ENDURING FREEDOM. It has become increasingly important to capture lessons learned and share them with the entire CE community.***

### **What is a Lesson Learned?**

A “lesson learned” is defined as an insight gained that improves military operations or activities at the strategic, tactical, or operational level, and results in long-term, internalized change to an individual, group of individuals, or an organization. In February 2007, The Air Force Civil Engineer, Maj Gen Del Eulberg, designated Headquarters Air Force Civil Engineer Support Agency at Tyndall AFB, Fla., as the central location for the Air Force Civil Engineer Lessons Learned Program. For the Civil Engineer community, this means that lessons learned at all levels of civil engineering are collected, validated, disseminated, and tracked through a central point of contact.

The Office of Air Force Lessons Learned, or AF/A9L, shares lessons learned through the Advanced Lessons Management System, which can be accessed via the internet:

<https://lessonslearned.langley.af.mil> (for unclassified information)

For classified lessons learned, contact the AFCESA Reach-Back Center.

In addition to ALMS, civil engineers can also use HQ AFCESA’s Lessons Learned Community of Practice. In this CoP, lessons learned submitted by deployed and in-garrison CEs are organized by location, unit, flight, and specific career field. The L2 CoP is found at <https://wwwd.my.af.mil/afknprod/ASPs/CoP/EntryCoP.asp?Filter=00-EN-CE-A2>.

### **The AFL2P**

The Air Force Lessons Learned Program, or AFL2P, exists to enhance readiness and improve combat capabilities by capitalizing on the experiences of Airmen. These past experiences assist senior leaders in programming, budgeting, and allocating resources to make changes to doctrine, organizations, training, materiel, leadership, education, personnel, and facilities.

The first step in the Lessons Learned Program process is collection, which includes obtaining information found in formal reports, such as after-action reports and inspections, or through individuals submitting observations that they think can benefit the Air Force or their career field. The second step in the process is validation, a process in which a reviewer confirms that an observation contains identifiable lessons or issues to be processed through AFL2P. The third step — arguably the most important — is dissemination. In this step, identified and validated lessons and issues are distributed to the appropriate lead Air Force agencies for further action and resolution, and made available for the widest appropriate use. Tracking is the fourth and final step in the lessons learned process. Tracking allows AFL2P to stay engaged and provide support and any necessary updates to key users of lessons learned information. Tracking is both a short-term and long-term step, with the ultimate goal of tracking lessons learned through



When civil engineers return from deployment, they bring along lessons learned as well as their gear.

(photo by Ms. Sue Sapp)

"cultural internalization" and issues through resolution development and implementation.

## CE Lessons Learned

HQ AFCEA's program mirrors AFL2P's program, focusing on the same four steps: collection, validation, dissemination, and tracking. In addition to receiving inputs through dissemination by Headquarters Air Force and Major Command A9L offices, civil engineers can also directly put their observations in the A9L system using the civil engineer input page located at [https://lessonslearned.langley.af.mil/afcks/share/singleinput\\_ce.asp?sel=share&sub=single](https://lessonslearned.langley.af.mil/afcks/share/singleinput_ce.asp?sel=share&sub=single) or by selecting "Submit CE Lessons Learned" beneath the "Action Items" header on AFCEA's Lessons Learned CoP.

These inputs come directly to HQ AFCEA for action. Once received, the AFCEA Lessons Learned Review Panel reviews the input and assigns it to the proper subject matter expert. The review panel establishes an estimated completion date and continues to follow up on the input until the assigned SME provides a recommendation or resolution to the observation. If the observation becomes a lesson learned, the review panel recommends a dissemination method based on its importance. Dissemination devices include e-mails, weekly activity reports, the *Air Force Civil Engineer* magazine, and The Air Force Civil Engineer's monthly VTCs. The lessons learned originator is notified of its disposition and action taken.

What does this mean to an engineer preparing for an upcoming deployment? Here's an example: SSgt Jones, 3E6X1, has just received a 179-day tasking to the 332nd Expeditionary Civil Engineer Squadron in Balad, Iraq. He wants to know what to expect at his new job. In addition to contacting his predecessor, he logs onto the AFCEA Lessons Learned CoP. The 332nd ECES doesn't have any

closed lessons learned; SSgt Jones looks through General Topics and finds that there was an issue with engineering flight personnel rotating out in September during end-of-year project preparation and that the issue has been resolved. The lesson learned recommended that rotation time be shifted to eliminate interference with EOY responsibilities. The issue was resolved by Maj Gen Eulberg making all CE deployments to 179-day tours effective Jan. 1, 2008. Therefore, the team at Balad will now rotate out in July rather than September.

If CE deployments had not been changed, the AFCEA Lessons Learned Review Panel would have tasked this observation out to U.S. Central Command Air Forces who would have worked with the Aerospace Expeditionary Force Center to determine a solution to the problem. Updates to open lessons learned can be monitored under "Active L2s (Under review)" heading on the AFCEA L2 CoP home page.

As CEs continue to deploy, disseminating lessons learned is critical for more efficient operations and allowing personnel to perform their wartime mission more effectively. Centralizing CE lessons learned at HQ AFCEA benefits the CE community by reducing the instances of multiple MAJCOMs working similar efforts. The streamlined process also ensures continuity and responsiveness to facilitate rapid implementation of changes.

Questions or problems with the Lessons Learned Program can be resolved by contacting the AFCEA Lessons Learned section at [CElessonslearned@tyndall.af.mil](mailto:CElessonslearned@tyndall.af.mil) or the Reach-Back Center at DSN 523-6995 or commercial 888-AFCEA1.

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*MSgt Johnson manages the Air Force CE Lessons Learned Program at HQ AFCEA, Tyndall AFB, Fla.*





**A vital component of the Air Force's "Strategic Triangle" of Pacific bases (along with Elmendorf and Hickam), Andersen AFB has long been a strategic asset, but plans for expansion in the near future will have Air Force CEs**

# Changing the Face of an Island

Capt Nichole K.A. Scott and  
Lt Col Mark A. Zimmerhanel, PACAF/A7PI

Located on the north end of the island of Guam — 3,800 miles west of Hawaii and more than 6,000 miles from the continental United States — Andersen is the western-most base on U.S. soil. That's a huge asset when it comes to operating freely within the region, because access to bases on foreign soil is not always guaranteed. Andersen has played an important role in our military strategy since World War II and that role will not diminish during changes directed by Base Realignment and Closure, the Defense Posture Realignment Initiative, and the Strategic Policy Initiative.

Andersen AFB already boasts several impressive infrastructure statistics: two 10,000-foot runways; the largest Air Force fuel storage capability; high maximum on-ground parking capacity; and a large air-to-ground munitions storage area. However, plans for the future require even more infrastructure, including the beddown of Global Hawk aircraft; construction of the Expeditionary Combat Support Campus; and the eventual relocation of more than 8,000 U.S. Marines from Japan to Guam (see sidebar). The Air Force also plans to locate intelligence, surveillance, and reconnaissance aircraft; strike aircraft; and aerial refueling aircraft here as part of the U.S. Pacific Command's Global Strike Task Force, which will be capable of responding quickly to conflicts in the region or worldwide.

A \$52.8M hangar to support Global Hawk aircraft is under construction, with an estimated completion date of June 2009. The ISR-Strike beddown at Andersen will also include the rotational, but continuous, presence of tankers, fighters, and bombers. The estimate for this effort is over \$1.5B and the project will take several years to complete. The construction associated with this beddown is monumental, and will occur in three phases. Phase one provides infrastructure and facilities on the South Ramp to support assigned Global Hawk aircraft and the increase in tankers and fighters. Phase two will provide infrastructure and facilities on the North Ramp to support a long-term fighter presence. Phase three will provide increased infrastructure and facilities for an additional 24 rotational fighters on the North Ramp. Some of the construction includes a clear-water rinse facility; a fuel-cell system; a corrosion-control/composite-repair shop; dormitories; visiting quarters; hangars; and aircraft shelters, as well as airfield repairs.

Another major ongoing construction effort is the Expeditionary Combat Support Campus at Northwest Field, to house the 554th RED HORSE Squadron, the 607th Combat Communications Squadron, the 607th Commando Warrior Squadron, and 554th RHS, Det 1 (Silver Flag). To meet the FY08 initial operation capability for the three squadrons and the FY14 IOC for Silver Flag, a host of various funding





Far left: An aerial view of the RED HORSE construction site at Northwest Field. (U.S. Air Force photo) Above left: Construction for the new Global Hawk hangar began on November 26, 2007; it will be able to withstand winds of up to 170mph and resist earthquakes. (photo by SrA Brian Kimball) Above right: A1C Christopher David, 554th RHS, stacks rebar at Northwest Field. (U.S. Air Force photo)

avenues and construction methods were used. The base, along with PACAF, found swing space until many required facilities are complete; a huge feat for a base with facility space constraints.

The \$200M-plus beddown of the three squadrons and one detachment will be accomplished with MILCON and O&M funds, and RED HORSE troop labor. Northwest Field consists of two parallel abandoned runways which make it an ideal location for bare-base training. The 554th RHS is busy executing 18 projects that span the entire construction spectrum, including work on several roads, warehouses, and infrastructure projects. A \$12.5M MILCON project to

provide critical infrastructure (power, water, and sewer) to Northwest Field is also in progress; this design-build contract was awarded in May 2007, with an estimated completion date of November 2008.

The construction timeline is aggressive and will affect the entire island. Air Force civil engineers are not short of work at Andersen and, working with the other services, will continue to pave the way for new capabilities.

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*Capt Scott is the Guam Program Manager and Lt Col Zimmerhanel is the Programs Integration Branch Chief, HQ PACAF, Hickam AFB, Hawaii.*

## Reshaping Guam's Military Presence

In addition to their rebasing efforts, the Air Force is working through the details of Joint Region Marianas implementation with other services, especially the Navy. The 2005 BRAC decision mandates that Andersen AFB will "relocate the installation management function to Commander, U.S. Naval Forces, Marianas Islands, Guam." The Air Force and Navy conducted tabletop exercises at each of the joint base locations where the two services were involved. The Joint Region exercised 14 functions as well as Command and Control, which spans all functions. Mission function definitions continue to be worked through to ensure that warfighting capabilities are maintained. As of December 2007, the Joint Base Implementation Guidance had not been signed, but Air Force and Navy communications are excellent and both are committed to make the Joint Region a success.

The planned rebasing of Marine Corps assets from Okinawa, Japan, to Guam is also impacted by joint basing. Recent news stories reported that the retired Marine Corps general in charge of the expansion stated that nearly 40,000 new

military personnel and family members would move to Guam in coming years as part of the Pentagon's overall plans to build up troop strength and operations on the island, including an estimated 8,000 Marines and their families who are expected to move to Guam by 2014.

To facilitate this monumental move, the Deputy Secretary of Defense created the Joint Guam Program Office. The JGPO is working with the affected services via Naval Facilities Engineering Command Pacific to develop the Guam Joint Military Master Plan, which will lay out the Marines' footprint on Guam, who will have a presence on Air Force land. Because there is no final beddown or footprint decision, much information is not yet releasable. However, the draft proposal includes the use of Andersen's North Ramp for an aviation combat element, Northwest Field for aviation training, and Andersen South for non-firing range training. There are significant environmental concerns on Andersen because of threatened/endangered species and cultural assets in the area; these concerns are being addressed by the JGPO Environmental Impact Study. The JGPO is also responsible for the basing of an U.S. Army ballistic missile defense task force on Guam. The Army conducted a site survey of Andersen AFB in December 2007 but requirements are not yet fully defined.

# AFIT Hosting Summer JEOC

Maj Chris Stoppel, AFIT/CEM

***For the first time, the Air Force will host a Joint Engineer Operations Course at the Air Force Institute of Technology, Wright-Patterson AFB, Ohio.***

The Sept. 30, 2002, final report of *The Engineer's Capability Study: A Path to the Future* stated that many company and field grade engineer officers deployed to a joint task force, or JTF, with little or no joint experience or education regarding service engineer capabilities and limitations. As a result, officers experienced a steep learning curve before becoming productive on the staff.

To remedy this shortcoming, the U.S. military's top advisory and proponent for joint engineering operational issues, the Joint Operational Engineering Board, directed the formation of a focused, rigorous course to train engineers assigned to a JTF. Thus, the Joint Engineer Operations Course was born. The JEOC targets civil engineer officers (6-13 years), senior non-commissioned officers, and civil service employees assigned to a JTF. Development began in 2005 with a Trainer's Development Conference; the course was refined during three pilot courses in 2006 and 2007. JEOC is now a mature course. The first full offering was in December 2007 at the U.S. Army Engineering School, Ft Leonard Wood, Mo. There are three offerings scheduled for CY2008.

From June 2-6, the in-residence portion of the two-phase JEOC will be held at AFIT's Civil Engineer and Services School; the prerequisite first phase of the course is a 30-35 hour distance learning program. Phase one comprises seven modules:

- ◆ U.S. National Strategy
- ◆ Joint Operations Planning
- ◆ Joint Engineer Capabilities
- ◆ JTF Engineer Organization
- ◆ Theater Engineer Operations
- ◆ Transition Planning and Considerations
- ◆ Environmental Considerations

Phase two, a five-day in-residence course, offers a variety of large and small group discussions blended with VTC

presentations from various JTF engineers and small group practical exercises to reinforce course objectives. Upon completing the in-residence course, students will be able to describe, comprehend, or apply these concepts:

- ◆ joint operations, warfare, and planning system
- ◆ joint engineer doctrine
- ◆ joint engineer planning
- ◆ service engineer capabilities and support requirements
- ◆ strengths, effects, and basic doctrinal employment concepts of service engineers
- ◆ employment principles for using service engineer capabilities in support of joint and service engineer requirements

AFIT will host the summer JEOC in conjunction with the joint board's approval to rotate the course among the three services to reflect its joint nature (the Navy will host a future JEOC at Port Hueneme, Calif.). While the course is specifically tailored to prepare engineers for working on a JTF, all Air Force engineers meeting the time and grade requirements are eligible to attend.

MGT 585, Contingency Engineering Leadership Course has been rescheduled to June 9-13 to follow the summer JEOC. The courses are similar in nature and joining them back to back offers bases and major commands some cost savings because AFIT pays travel, lodging, and per diem costs for their respective continuing education courses. Engineers attending JEOC and MGT 585 will only be responsible for lodging and per diem costs associated with the JEOC.

Individuals wishing to attend JEOC can contact Maj Chris Stoppel at DSN 785-5654, ext 3509, or email: christopher.stoppel@afit.edu.

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*Maj Stoppel is Course Director and an instructor at AFIT's Civil Engineer and Services School.*

***You'd expect the new Chief of Enlisted Matters for The Air Force Civil Engineer to bring extensive experience to the job, and he does.***

In his almost 24 years as a CE, CMSgt Patrick Abbott has gone from being a brand new engineering assistant (3E5) to managing the engineering career field. He's deployed in three operations — ALLIED FORCE, ENDURING FREEDOM, and IRAQI FREEDOM — and has been assigned to bases in six states and the Republic of Korea while working at base, wing, and headquarters levels.

He came to the Pentagon on February 11 from Nellis AFB, Nev., where he was the Chief of Airfields for the 820th RED HORSE Squadron. During his most recent deployment, he was Superintendent of the 557th Expeditionary RHS at Balad AB, Iraq, where he managed over 400 RH Airmen at 18 locations, constructing 120 projects valued at \$44M in direct support of the Army mission.

You'd expect this kind of experience but, according to CMSgt Abbott, as a young CE, he never expected to have it.

"I've just done so many things throughout my career that I never expected to be able to do," he said. "I expected to be working on construction and building projects, but not the broad range that I've had. And, I

# a Breadth of Experience

Ms. Teresa Hood  
HQ AFCESA/CEBH



CMSgt Patrick Abbott, 557th ERHS Explosives Demolition Team, sets C4 breaching charges to clear debris from a damaged overpass on MSR Tampa, 20 miles south of BIAP. (photo by TSgt Brandon Lancaster)

certainly never expected that I'd be deployed as an Army enabler having an impact on the ground war in Iraq. I was with the 557th during the 'surge' as we transitioned from on-base construction to moving forward with the forces to build their patrol bases and command and control centers.

"With every job I've thought, 'You know, it's just not going to get better than this,' but it has. It always seems to get better, and the next job just grows on all that prior experience."

So what does the chief expect from his new job as Chief of Enlisted Matters?

"I think I have a pretty good understanding of the impact the 1:2 dwell — 1:1 really, for some specialties — has on the Air Force, and especially on CE. I hope to put some of that to good use. I want to continue the team effort that Chief [Wayne] Quattrone successfully established with the career field managers and MAJCOM functional managers — that's very important. And I'm looking forward to working with General [Del] Eulberg on CE Transformation, especially with the squadron reorganization.

"That's one of the reasons I volunteered for this job: there are so many changes taking place and I wanted to share my experience, be a part of them and look out for the CE Airmen and wage-grade employees. These are very exciting times for civil engineering and I'm excited to be here."

## Thanks and Farewell

After 28 years, it's time for my military adventure to come to an end. I want to thank my CE family for making it such a wonderful career. Your support, sacrifice, and most of all your friendship have been the bedrock during years of change and challenge. I'll miss the camaraderie

and sense of purpose...but, it's comforting knowing the caliber of people remaining behind. Our Air Force will continue to be our country's guardian! Godspeed!

CMSgt Wayne Quattrone



# RED HORSE

## Saddled Up and Ready

CMSgt Karl Deutsch, HQ ACC/A7XO

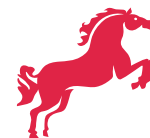
### ***There is never a dull moment in the HORSE.***

The main focus for RED HORSE right now is how we are posturing and preparing the "Total Force" RED HORSE to deploy in support of the requirement for heavy construction capability in U.S. Central Command. At all times, one of Air Combat Command's three active duty units is deployed within the CENTCOM area of responsibility at a 1:2 dwell (deployed 6 months: home 12 months). Supporting these deployments are Reserve and Guard teams as well as warriors from Prime BEEF and the logistics communities. Together, we successfully provide the Commander, Air Force Forces and Multi National Corps-Iraq leaders a total-force combat heavy engineer capability.

A few organizational changes are currently being made as a result of the deployment focus. ACC's three RED HORSE squadrons — the 819th, 820th, and 823rd — are in the middle of a 318-person increase in manning. Engineers from across the Air Force will have the opportunity to join the RED HORSE ranks. Total Force Integration is also helping the HORSE expand its capabilities by associating Reserve RED HORSE units with their active duty counterparts. The Reserves are also establishing two new 209-person units at Seymour Johnson and Charleston AFBs. The Guard is adding to its capability by increasing the manning of units in Pennsylvania and Ohio to full 404-person squadrons. Overall, the HORSE is reconfiguring its unit type codes, or UTCs, into more modular packages to create a lighter and leaner capability that can be easily tasked for specific missions. All of these organizational changes will provide the required amount of heavy construction capability to the warfighter.

In addition to the challenges associated with supporting contingency requirements, RED HORSE remains fully engaged with the stateside Troop Training Project program. TTPs are critical to ensuring that our Airmen are trained in the special capabilities RED HORSE provides. They also benefit our bases by completing priority construction projects. Examples of TTPs include runway repairs and construction at Dyess AFB, Texas, and Whiteman AFB, Mo.; ramp construction at Holloman AFB, N.M.; well drilling





at Davis Monthan AFB, Ariz.; and facility construction at Creech AFB, Nev.

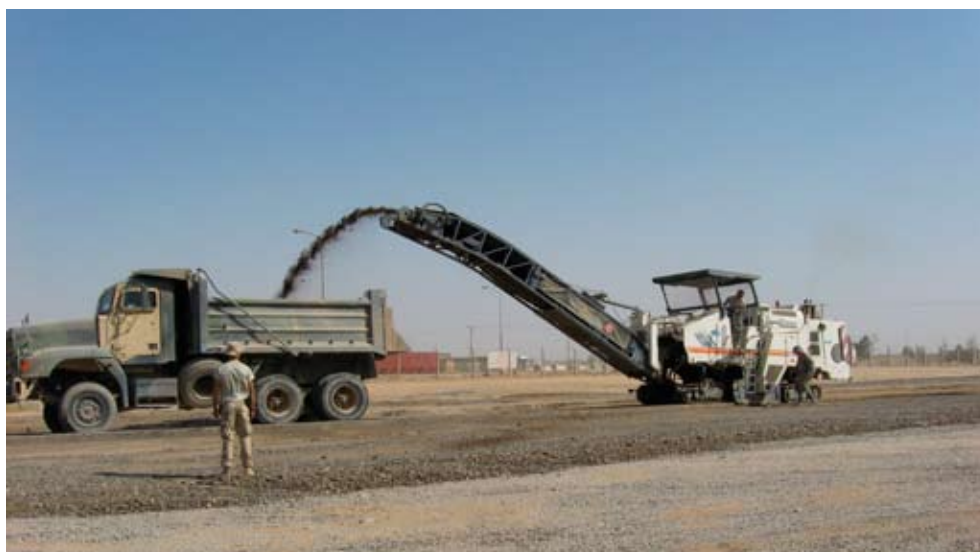
In addition to regular CONUS TTPs, RED HORSE supports Air Forces Southern and the New Horizons program. The 820th RHS recently deployed to Nicaragua (see article on p. 22) to construct and repair schools and medical facilities. They are scheduled to do the same this summer in Peru.

Finally, the Airborne RED HORSE program — our “break glass in case of emergency” capability maintained in active duty HORSE squadrons— is continuing to expand and prove its worthiness. Airborne RED HORSE has partnered with East- and West-Coast Contingency Response Groups to exercise the “Open the Base” concept of operations. We are looking at consolidating our Airborne enablers (Explosive Ordnance Disposal, Fire, and Emergency Management) to a single location, allowing us to improve the way we organize, train, equip, and posture this rapidly deployable, first-in engineer capability.

RED HORSE is as busy now as it’s ever been. Keep looking on Equal-plus for openings in any of the HORSE units, including the Airborne program. It’s an exciting time as we improve and expand the HORSE’s capabilities.

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*CMSgt Deutsch is the RED HORSE/Airborne RED HORSE functional area manager, HQ ACC, Langley AFB, Va.*



Previous page: SSgt Joshua M. Bates (foreground) and SSgt Edwin F. Penate construct the exterior wall to the TOC for the 1st Combat Aviation Brigade at COB Speicher. (photo by Maj Robert S. Grainger)

Above: Capt Brian Ellis, a member of the 554th RED HORSE Air Assault team, monitors a member of his team belaying a teammate during air insertion training. (photo by A1C Daniel Owen)

Below: TSgt Eric Bodden (Driving milling Machine) SrA Mark Huddleston (on the ground next to the milling machine) and A1C Barry Bartlett removing the asphalt from COB Speicher’s perimeter road. (photo by Maj Robert S. Grainger)



# 'HORSE Training Solves Real Problem

Lt. j.g. Shay Meskill, 823rd RHS/DE

B-2 flying operations at Whiteman AFB, Mo., continued overhead as a detachment of the 823rd RED HORSE squadron from Hurlburt Field, Fla., replaced runway and taxiway slabs under the hot sun of last summer.

The project was one of several that the 823rd RHS executed at six different Air Combat Command bases across the country under a \$12M RED HORSE Troop Training Project program. Increasing civil engineering demands from the Global War on Terrorism and the decreasing availability of base maintenance funds make TTPs a solution with mutual benefits.

"While regular O&M and MILCON funding streams may be tight at times, RED HORSE TTPs are normally fully funded," said Maj Bryan Opperman, Operations Flight Chief of the 509th Civil Engineer Squadron at Whiteman. "This lets the base get key projects accomplished while providing our RED HORSE forces with valuable technical training and experience."

The 823rd RHS was tasked with identifying and replacing failed concrete slabs on the north runway and taxiway alpha as well as replacing deteriorating joint sealant. Although a construction project like this normally will shut down or severely restrict a wing, at Whiteman, the decision was made to set a displaced threshold allotting the B-2 its minimum operating strip while the clearing the remainder of the runway for construction.

Airmen of the 509th CES and Operations Support Squadron set the displaced threshold using reflective tape to create the new overrun markings. Low barriers were put in place to visually set apart the active runway from the construction area and all pilots were briefed on the new approaches to be used during construction. When the detachment of 21 HORSEmen arrived at Whiteman in July 2007, the north runway was ready for construction.

Aircraft flew above as the RED HORSE equipment operators began demolition of the runway and taxiway slabs. "At first the situation was intimidating compared to what you learn at tech school," said A1C Robert Zelaya, B Flight equipment operator for the 823rd, "but as I started fully understanding the construction process, I gained confidence in what I was doing."

The RED HORSE team worked on the runway and taxiway slabs thru the hot and humid summer months, enduring a heat index of over 110 degrees Fahrenheit — a constant reminder of what they were preparing for. "The increased ops-tempo and harsh weather conditions are a good deployment precursor for the new HORSE team members" said SrA Randall Crum, B Flight equipment operator.

Within two months, the 823rd CEs replaced a total of 30 slabs to meet airfield standards and replaced 25,000 linear feet of joint sealant. With the concrete remaining from demolition, they created a rubble field as an anti-vehicle barrier.

The airfield project relied heavily on coordination between the 823rd detachment and all of the involved 509th units. There were zero safety incidents and over 5,000 flying sorties were saved. Leaving behind a successfully completed project, members of the 823rd RHS returned to Hurlburt Field to focus on preparation for their upcoming deployment in early 2008.

"The real-world experience that the young Airmen gained during this troop training project will make for a more confident and efficient construction crew during the next deployment," said MSgt Clark Walton, 823rd Pavement and Equipment B Flight Chief and the project's NCOIC.

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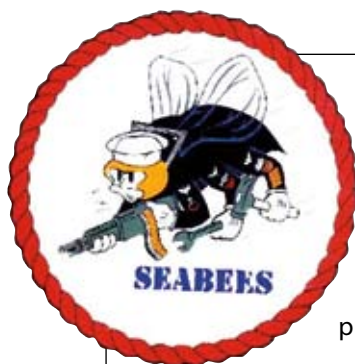
*Navy Lt j.g. Meskill is a project engineer, 823rd RHS, Hurlburt Field, Fla., and was the project officer-in-charge of the TTP at Whiteman AFB. He is assigned to the 823rd RED HORSE via a Department of Defense exchange program.*





Above: Despite ongoing runway repair by the 823rd RHS, B-2 flight operations continued at Whiteman AFB.

Right: A1C Robert Zelaya makes cuts in the runway in order to remove damaged concrete. (photos by the author)



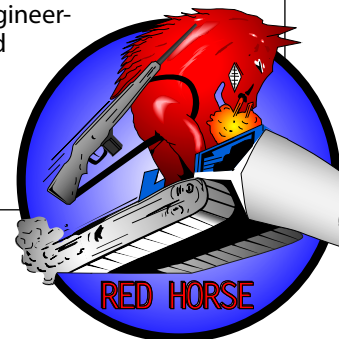
## Navy/Air Force Exchange Program: The 'Bee and The HORSE

Since 1998, the Air Force and Navy have been executing an exchange program designed to develop the knowledge and experience of officers and senior enlisted leaders serving as engineers in command and staff positions. The goals of the program are to gain a more comprehensive understanding and effectively exploit joint capabilities in contingency engineering, wartime planning, and field operations. This program facilitates the exchange of operational concepts and procedures at the unit level, both in peacetime and in readiness/contingency situations.

The program works by assigning two officers and two enlisted from each service to a full-tour assignment with one of the other services expeditionary engineering units. The units participating in these exchanges are the 820th RHS, Nellis AFB, Nev.; 823rd RHS, Hurlburt Field, Fla.; Naval Mobile Construction Battalion 4 and NMCB 40, Port Hueneme, Calif.; and NMCB 74 and NMCB 133, Gulfport, Miss.

Working as a project engineer for the 823rd RHS has been a great opportunity for me. The engineering design capability of the RED HORSE is impressive and has given me experience that I could not gain in the Navy. I feel that I give back to the HORSE by passing on my knowledge of the warfighting tactics, techniques, and procedures that are fundamental in the Seabees.

Shay Meskill, Lt. j.g., USN



# Ready to Roll

Capt Edward Dice, 820th RHS/CA

**Balad RED HORSE Airmen undertake convoy missions to get the job done**



Members of the 557th ERHS prepare to roll out on convoy duty in Iraq. (U.S. Air Force photo)





**As the operations tempo for Operation IRAQI FREEDOM continues to increase, demanding more and more from service members, Airmen continue to excel, including combat engineer Airmen.**

About 30 Airmen from the 557th Expeditionary RED HORSE Squadron's Combat Logistics Patrol team learned how to be Soldiers so they could fill 'in-lieu-of' missions to provide safe and expeditious transport of equipment, materials, and personnel. The convoys supported heavy construction, repair, and bed-down operations encompassing 18 different coalition, forward-operating, and patrol bases in Iraq.

The CLP team at Balad AB, Iraq, comprises Airmen from nearly all engineering disciplines, four vehicle mechanics, two security forces personnel, and one medic. Members were hand-selected from some of the best craftsmen, vehicle operators, and marksmen who deployed as part of the RED HORSE team, made up of several hundred active duty and Reserve RED HORSE and Prime BEEF engineers and LRS warriors.

This self-sustained engineering team provides the capability of next-day delivery of up to 500 tons of controlled cargo by providing both gun-truck support and heavy cargo movement assets while conducting convoy operations throughout RED HORSE construction sites in Iraq.

"We are also trained to set up and secure a perimeter to ensure that the project goes on unabated, so the Airmen working on the ground can focus on their jobs and not worry about enemy attack," said MSgt Brian Brown, CLP team non-commissioned officer-in-charge and alternate convoy commander.

Sometimes missions scheduled for a few hours turn into 8- to 10-hour trips, usually due to roadside bombs.

"A lot of things run through your head while stopped for an IED on a main or alternate supply route traversing the middle of Baghdad," said SSgt Mitch Romag, the lead gunner. "Until it's defused, we're sweating in a cramped HUMVEE gun truck with our night vision goggles on, looking for any potential threats. We don't like to take an alternate route around, because we don't want to leave [the IED] there to detonate on the next coalition force

convoy passing through. It's pretty unnerving, though, just sitting there, waiting for the enemy to draw a bead on your location."

For one mission, the CLP team hauled construction tools, equipment, and materials to Forward Operating Base Warhorse. Their engineering expertise led to the construction — in three weeks — of six tactical operation centers providing the command and control component essential to the operation. Under indirect enemy fire attacks, their focus on the mission guaranteed that the Multi-National Division-North commander's rigorous deadlines were met for securing the city of Baqoubah, a prominent Anti-Iraqi Forces stronghold.

Helping the Iraqi people is important to the team, but it can be daunting.

"So many of the people you see over here appear to just want to get on with their lives," MSgt Brown said. "A lot of them, especially the children, just wave and smile. It becomes difficult because you can't delineate between those people and the enemy. But you have to put the safety of your Airmen first, so you have to treat each situation uniquely. You never know what you're going to see on the road."

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*Capt Dice is the Airborne officer-in-charge, 820th RHS, Nellis AFB, Nev. He was the 557th ERHS CLP team's OIC and convoy commander.*





# Rebuilding an Air Force



## The Coalition Air Force Transition Team

Capt Matthew Joseph, 21st CES/CEX, and Maj David Wilder, CAFTT/CCE

***What would it have been like for a civil engineer on Sept. 18, 1947, at the birth of the United States Air Force? Given a chance to start all over again, how would an engineer develop a new Air Force? The Coalition Air Force Transition Team, better known as CAFTT, has been given that opportunity.***

CAFTT advises the Iraqi Air Force on rebuilding and restoring airpower capabilities to support the government of Iraq's fight against insurgents.

Recruitment, training, aircraft acquisition, and infrastructure — CAFTT Airmen advise IqAF leaders in every aspect their day-to-day operations. The CAFTT civil engineers perform a critical role in the rebuilding the IqAF through construction and renovation of facilities and infrastructure.

The organization of CAFTT has evolved since its inception in 2005. The latest major organizational change, in March of 2007, saw the creation of the subordinate 370th Air Expeditionary Advisory

Group and five expeditionary squadrons to implement the training and operational advisory missions. The 370th AEAG currently has more than 350 Coalition personnel based at Kirkuk Regional AB, Taji AB, Basra AB, New Al Muthana AB, and the Iraqi Military Academy Rustamiah. The 370th AEAG's two main functions are to train new Iraqi enlisted, warrant officer, and officer recruits at the Air Force Basic School and Officer Training School; and advise on the tactical use of aircraft, equipment, and facilities.

Many CAFTT personnel have two jobs: as an advisor to the Iraqis and as an action officer procuring and providing for the IqAF. Civil engineers work in both arenas, working on facility construction and renovation, and advising the IqAF civil engineers. The goal is to provide a smooth and seamless transition from Coalition performance of all tasks to a partnership between the Coalition and Iraqi forces, and then to handing complete control to the IqAF.

Much of what CE does in CAFTT is provide facilities and infrastructure to the Iraqis. Existing structures and utility systems are often in poor condition and in need of repair





Previous page: Coalition Air Force Transition Team(CAFTT) in Baghdad led by Maj Gen Robert Allardice, class '07-'08. Above left: Air Advisor 1st Lt Benjamin Knost conducts a construction inspection at Taji AB, Iraq. Above right: An Mi-17 helicopter lands on the recently completed landing pad. (U.S. Air Force photos)

or replacement. Work-arounds or "Gap Projects," are the rule, not the exception.

The IqAF currently has no independent civil engineering function of its own; officers serving the Iraqi Army provide engineering oversight to the IqAF. As with any tenant unit, coordinating support between the two can be very challenging, especially when the Iraqi Army's facility conditions may be no better than the Iraqi Air Force's.

So what might be a typical day for a CE on the CAFTT staff? The day usually begins with a review of the \$187M in renovation and new construction projects being completed at the four bases. To date, the IqAF does not have a plan beyond the next year for funding aircraft, or facilities and infrastructure to support their beddown. Area Development planning, including capacity analysis to support IqAF growth, rounds out the morning.

Time after lunch is spent advising the IqAF leaders on developing a strategy for a capital improvement program. Engineers also focus on the cultivation of an infrastructure budget to resource the IqAF through the Multi-National Security Transition Command-Iraq Joint-Staff, various transition teams, and ultimately the Iraqi Ministry of Defense. Late afternoon involves long-term planning (two-five years out) to grow the IqAF from four to 10 bases and four area defense sites through 2012, along with supporting 5-year O&M plans.

Finally, we wrap the day up advising our IqAF counterparts on alternative ways to facilitate funding through the Ministry of Defense for current construction, renovation, and "life support" (supporting maintenance and logistical issues) contract requirements for their bases. All this goes on while simultaneously conducting training, operational training, and real-world operational missions in a war zone. The end goal is to have the IqAF make informed decisions to take its own flight path and for the Coalition members to return home.

Despite the challenges and difficult issues, CAFTT is an incredibly rewarding experience for any civil engineer. A tour working in a joint or combined environment is a rare experience for a CE officer, but is becoming more common. The chance to be intimately involved with the establishment of a new Air Force and guiding the future of another country is a once-in-a-lifetime opportunity.

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*Capt Joseph is currently the Readiness and Emergency Management Flight Commander, 21st CES, Peterson AFB, Colo. He was the Assistant Base Transition Manager for HQ CAFTT, Baghdad, Iraq. Maj David Wilder is the executive officer, HQ CAFTT. He deployed from HQ AETC, Randolph AFB, Texas, where he was the chief of Integrated Plans.*





# Juntos Podemos: Together We Can

From the Front

Capt Billy S. Allen  
611th CES/CECP

On Christmas day 2006, members of the 820th RHS loaded 800 short tons of equipment on a barge; the next day 11 heavy equipment operators left a chilly Las Vegas for a 148-day deployment to Nicaragua. The civil engineers and equipment were heading to Central America to begin preparation for the joint exercise New Horizons 2007, "Juntos Podemos."

## Base Camp Preparation

With no existing facilities to house all of the troops needed for construction operations, everything had to be built from the ground up — including the ground. A 20-acre cornfield with rolling hills and a small valley was given to the 820th Expeditionary RED HORSE Squadron to use as a base camp.

During site preparation, equipment operators moved over 53,000 cubic yards of soil in only ten days.

In three days, facilities for billeting, offices, kitchen, laundry, shower/shaves, vehicle maintenance, supply, fitness center, and morale, as well as a helicopter aerial port, were laid out, just in time for the first of the convoys to arrive with the equipment. While much of the materials for the construction projects could be purchased in Nicaragua, everything else to run a base camp had to be shipped down: a total of 78 seavans, 38 vehicles, and 44 internal slingable-container units, or ISUs.

In early January, more members of the 820th ERHS arrived and started installing the electrical and water

The 820th RHS widens a road near Pita, Nicaragua, as part of New Horizons 2007. (photo by SSgt Jason Bailey)





SSgt Justin McRoberts, a structural craftsman from the 820th RHS, Nellis AFB, Nev., cuts stairs for the latrine at the clinic construction site in Buena Vista, Nicaragua. (photo by SSgt Jason Bailey)



SrA Jean Daniel Colas, 820th RHS, mixes concrete for a pedestal that will hold a dedication plaque at a school being constructed in San Martin De La Calera, Nicaragua. (photo by SSgt Jason Bailey)

distribution system for a 250-person base camp. A local contractor drilled a 600-foot well to connect to a reverse-osmosis water purification unit to provide drinking water for the camp.

Once the base camp infrastructure was in place, it was time to start putting up the tents to house 611 Airmen, Soldiers, and Marines from 46 different units that would rotate in to participate in the exercise.

TEMPER tents were configured into six-section tents to reduce the number of environmental control units required from 78 to 50, reducing the power — and fuel — requirements and saving already limited operations and maintenance funds. The base camp was livable in four weeks and completely finished in six.

## Project Execution

Engineers were tasked to build two 1,800-sq ft concrete-masonry-unit facilities: a three-room school and a five-room clinic. RED HORSE and Prime BEEF engineers teamed together to

complete the medical clinic while the 153rd Army Engineers from the South Dakota National Guard constructed the school.

With some exceptions, construction materials for the facilities were purchased locally and delivered directly to the project sites. Certain materials, such as electrical and plumbing supplies, were either not available at all or in the quantities needed, or did not meet U.S. building standards.

One of the most frustrating challenges was the timeliness and quality of concrete delivered to the project sites. The first concrete delivered had a slump of 10 inches and a temperature of over 150 degrees Fahrenheit because the drums were spun at high speed during the two-hour transit from the plant. Working with the concrete company to deliver only aggregate to the site (spun at the lowest level during the trip) and then mix cement into the trucks on site solved the problem. This process added an extra hour on site to break open cement bags and mix in the trucks before

pouring, but the improved quality of the finished concrete made it time well spent.

## Additional Projects

The 820 ERHS leaders worked with USSOUTHCOM to get additional funding, allowing the military engineers to drill a well at the clinic site; repair the foundation and latrines at a local school; repair a water well at the school; install water lines at an orphanage; and repair 44 miles of dirt roads in the surrounding area.

New Horizons 2007 lived up to its name: Juntos Podemos. Working together, active duty Air Force CEs and Army National Guard engineers gained invaluable bare base beddown and construction experience while building first-class facilities for — and better relations with — their Central American “neighbors.”

*Capt Allen is Engineering Section chief for the 611th CES, Elmendorf AFB, Alaska. During New Horizons 2007, he served as the Operations Flight Commander for the 820th ERHS.*

**Sponsored by U.S. Southern Command, New Horizons exercises provide training to U.S. troops while improving relations with the governments and people of host nations in Central and South America. The objective for civil engineers participating in the \$7.5M New Horizons 2007 Nicaragua was construction of a schoolhouse and a clinic in**

**a poor community approximately 80 miles south of Managua. Three rotations of medical units also participated in medical readiness exercises and veterinarian readiness exercises during New Horizons 2007, treating a total of 20,858 patients and 8,321 head of livestock.**

# Minot says, "Let It Snow"

Mr. John Pippins, 5th CES/CEOP

**Minot AFB didn't just purchase a snow removal solution, it helped design one**

When you're responsible for runway maintenance in North Dakota, your job is a constant battle with an "enemy" that descends from the sky: snow. At Minot AFB, N.D., civil engineers have to deal with three to four feet of snowfall annually.

We recently accepted delivery at Minot AFB of a new Oshkosh H-Series snow removal vehicle that we're sure will give us an edge in fighting the snow. We're sure because we were actually a part of the collaborative process to design the vehicle's customized cab and chassis. This intensive process ensured that the particular needs of military users at Minot and other Air Force bases were met.

The process began in August of 2005 with focus groups, seminars, and discussions facilitated by experts at the Air Force Civil Engineer Support Agency, Tyndall AFB, Fla. Representatives from each command provided input on the new snow removal vehicle.

The focus groups brought together the people who operate the vehicles, the people who purchase them, and the engineers who design them. The sessions allowed purchasing agents to hear and understand exactly how those on the ground and behind the wheel use the vehicles. The H-Series chassis can be easily customized with a wide range of attachments before an order is placed, so we were even able to talk about the distinctive challenges of our particular bases.

When CE squadrons order snow removal equipment, the starting point is the amount of annual snowfall. This determines how many pieces of equipment are received — at

Minot AFB we average 44 inches of snow a year and have 25 runway/airfield snow removal units (brooms, blowers, plows). But then it gets more specific. The particular options and configurations selected are determined by the kind of snow and the type of snow conditions. For example, in North Dakota, we have very cold winters and don't have to worry too much about ice, so we use less chemicals compared to some bases.

When our new Oshkosh snow broom was delivered this summer, we could immediately see the results of our input. Even from outside the cab, it was obvious that the wrap-around windshield was a tremendous upgrade in visibility. Sitting behind the wheel confirmed this: the driver can easily see all the attachments and where the vehicle's going and also where it's been, which is an equally important view for ensuring safe and efficient runway clearing.

The new cab allows entry from either side and has power roll-down side windows — a feature we quickly admired. The old trucks had a flip-out window and drivers had to step out of the truck and onto the catwalk to wipe off the side mirrors. Now, windows can be rolled down a short way and the mirrors wiped down from the cab. The new vehicle has an integrated HVAC system and a heated windshield. Lighting has been upgraded as well: front HID lights and all-over LED marker lights make the units more visible. LEDs are installed as standard equipment on the inside.

The manufacturer provided on-site training, which included an introduction to the digital dashboard and Command Zone integrated electronics system, which also allows our mechanics to quickly pinpoint and resolve issues. Even those of us who cut our teeth on much older technology are beginning to feel comfortable with the new system.

Ultimately, one of the smallest improvements was the most welcome. During the focus groups I said that I'd like to see cup holders in the new cab. Everyone chuckled, but we all knew that operators spend long hours in the cab, often in very cold temperatures, and the flat surfaces of the old cab made a hot cup of coffee hazardous — to man and machine. Now we have a pair of cup holders, and they work like a charm.

*Mr. Pippins is the 5th CES Horizontal Equipment Monitor, Minot AFB, N.D.*



Above: The new Oshkosh H-series vehicle in action at Minot AFB. Inset: The digital dashboard and Command Zone electronics system required on-site training for all operators. (U.S. Air Force photos)



# Catching Some Rays at Nellis

Mr. Roger Williams, HQ ACC/A7PA

Green is good. We've heard that for years and the Air Force is beginning to see green from money saved by harnessing the sun's energy at Nellis AFB, Nev.

Representatives from the Air Force, the state of Nevada, MMA Renewable Ventures, and SunPower Corporation flipped a switch on Dec. 17, 2007, to begin providing solar energy to the base. This event marked a new government-private industry effort, one estimated to save the Air Force \$1M annually, while reducing carbon dioxide emissions by 24,000 tons each year.

"This solar project at Nellis is a first step of many toward making renewable electricity integral to the operations of the U.S. Air Force," said Mr. William Anderson, Assistant Secretary of the Air Force for Installations, Environment and Logistics.

Nellis' photovoltaic solar array, the largest in the Americas, is located on 140 acres in the Nevada desert at the western edge of the base. It has over 72,000 solar panels and 5,800 solar trackers, and generates 14.2 MW of power, which will provide nearly 25% of the base's electric energy needs.

Groundbreaking for the joint endeavor was in April 2007. SunPower Corporation designed, built, and maintains the innovative solar array, while the Air Force provides the land through a land-lease agreement. MMA Renewable Ventures funded, owns, and operates the \$100M system and sells power to Nellis at a guaranteed fixed rate for the next 20 years. This partnership allows the Air Force to redirect the \$1M in annual savings to more mission-essential areas.

"The Air Force is committed to increasing energy efficiency, reducing consumption, researching, testing and certifying alternative fuels and renewable and sustainable resources to create new supply sources," said Brig Gen Tim Byers, ACC Director of Installations and Mission Support. "We're seriously committing to these proven energy alternatives as Air Force budgets get tighter in the years ahead."



The largest photovoltaic solar power plant in the Americas is a reality at Nellis AFB, supplying 25% of base energy needs.  
(photo by A1C Nadine Barclay)

In 2006, Nellis began a three-pronged attack to conserve energy and water. The first part of the plan is development of energy projects, such as the solar array. Other projects include using ceramic roofing paint to help insulate against the desert heat, and xeriscaping over 17 acres to save water. Part two involves changes to base operations and part three is an aggressive "Turn It Off" awareness campaign to encourage good energy habits.

"The completion of the solar array project is an important step for the base Energy Program," said Ms. Michelle Price, Nellis AFB Energy Manager. "We hope to keep Nellis an energy leader for the Air Force."



# Fixing <sup>Up</sup> the Joint

Capt James E. Adams, 931st CES/CEO

## ***Critical taxiway joint at one of OIF's busiest air bases gets full-depth repair***

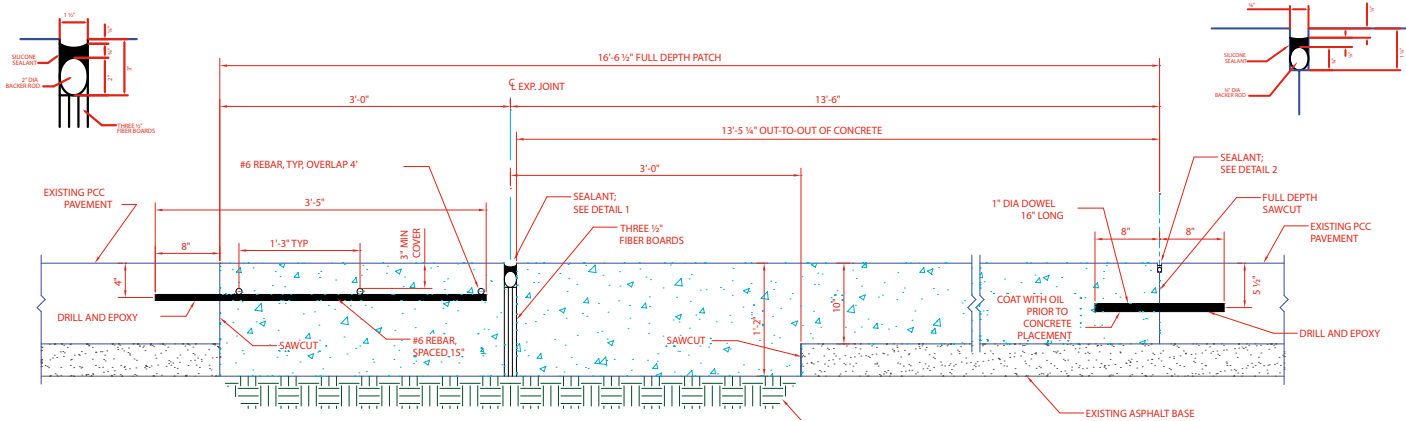
Joint spalling, the most common distress found in concrete airfield pavements, is a perpetual headache for Air Force civil engineers. This proved to be especially true at Balad AB, the main air hub for Operation IRAQI FREEDOM. In July 2007, significant spalling along an expansion joint led to a temporary closure of a vital parallel taxiway.

Although expansion joints are rarely used in concrete pavements at any U.S. Air Force bases inside or outside the continental United States, they are common in Iraqi airfields, usually spaced at roughly 100-foot intervals. Expansion joints spall more frequently than typical contraction joints because of their larger widths and thermal movements. If the sealant is not maintained, spalling occurs over time when incompressible materials in the expansion joint prohibit proper movement.

As the Airfield Pavements Engineer, I recorded the daily thermal movement of the expansion joint at Balad to be 3/8" during the summer. This large movement had created significant spalling all along the 80-foot length of the joint. As an expedient measure on June 30, the 332nd Expeditionary Civil Engineer Squadron did an emergency partial-depth repair on a previously distressed area using PaveMend® along the failed joint. This temporary repair enabled continuation of F-16 fighter operations while a more permanent solution was sought. After consulting with experts at Headquarters Air Force Civil Engineer Support Agency, engineers from AFFOR A7 and the 332nd ECES decided that a full-depth repair, including a new expansion joint, was necessary to provide a durable solution.



*Sulfate attack caused deterioration of the concrete runway. (U.S. Air Force photo)*



This diagram shows a cross-section of the runway repair.

The pavements engineers originally planned for the repair to be 6 feet wide, but when CEs from the 332nd ECES began removing the concrete, they discovered that the bottom of the slab along the south side of the joint had deteriorated from sulfate attack. The south edge of the repair was thus moved to the nearest contraction joint to ensure that all deteriorated concrete would be replaced, which increased the total repair width to 16 feet. The final design, shown above, also called for the slab to be thickened from 10 inches to 14 inches within 3 feet on either side of the joint. The width of the joint itself was set at 1.5 inches to accommodate the large thermal movement.

332nd ECES engineers performed the repair using an assortment of materials and equipment. A contractor generously provided 1-inch diameter dowels, and we obtained sulfate-resistant Type V concrete from the local concrete

supplier. Members of the 332nd ECES Heavy Repair shop, led by MSgt John Pollert, used a full depth concrete saw, compact loader, and a pneumatic dowel drilling machine to prepare the repair area for concrete. 332nd ECES engineers placed concrete at night in order to lessen the thermal stress on the fresh concrete.

Within three weeks of the failure of the partial depth repair, the critical taxiway was reopened to traffic. According to the 332nd Operations Flight Commander, Maj Mike Klapmeyer, the project was an overwhelming success and "a testament to the exceptional collaboration of engineers from our squadron, CENTAF AFFOR A7, and AFCESA."

*Capt Adams is the Operations Officer, 931st CES, McConnell AFB, Kan. He was the USCENTAF AFFOR A7 Pavements Engineer.*



At Balad AB, pouring concrete at night lessens thermal stress on fresh concrete used for runway joint repair. (U.S. Air Force photo)

# CE Receives 'Outstanding American by Choice' Award

TSgt D. Clare, 332nd EAW/PA

On Sept. 24, at Ft. McHenry in Baltimore, Capt Rasul Alsali, a naturalized U.S. citizen from Iraq, was given an Outstanding American by Choice award. To receive it, he traveled from his former homeland, where he's deployed as an Air Force civil engineer with the 732nd Expeditionary Civil Engineer Squadron.

The award, presented by the U.S. Citizenship and Immigration Services, recognizes naturalized citizens who have demonstrated a commitment to the country through civic participation, professional achievement, and responsible citizenship.

As a combat engineer with the 732nd, Capt Alsali supports the U.S. Army's 20th Engineer Brigade where he oversees construction projects not far from his former hometown of Samawah, Iraq.

"I deal with Iraqi contractors every day. They're surprised when they see me in uniform and I speak the same language. It's a plus for my colleagues and the whole team," said Capt Alsali.

This is the captain's second deployment to Iraq; his first was in 2004 as a liaison officer with Multinational Corps-Iraq's joint area support group in Baghdad.

"The first minute I landed in Iraq it was a strange, indescribable feeling," said Capt Alsali. "Toppling (Saddam) was a miracle and no one believed that the regime would go. But with the aid of the Americans and the support of the American military, it was the greatest thing that happened into the lives of the majority of Iraqis."

Capt Alsali was 29 years old in 1991 when the United States and its coalition partners ejected the Iraqi army from Kuwait. In the aftermath of Operation DESERT STORM, he joined in the uprising against the regime that took place in many Iraqi towns, but was forced into the Western Desert with his fellow fighters when Saddam's regrouping forces recaptured his town.

"I found the safest place I could for my wife and child and we fled to the American lines (on the Saudi Arabian border). They took us in and gave us some water and food and medical care," Capt Alsali said. "Otherwise, we would



have been killed like the others who couldn't make it, who ended up in massive graves."

The situation at the camp was desperate and tense.

"I had lost track of my wife. I thought she was dead with my kid because the city received a big heavy barrage of artillery and helicopter shelling," Capt Alsali said. "After searching among 22,000 or 23,000 people, or more, I was able to locate her. Imagine the minute I saw her! She was crying and I was crying."

For 15 months, Capt Alsali and his family lived at the camp, where he worked as an interpreter and organized logistical support to help his fellow refugees.

After being granted asylum in 1992, the Alsali family traveled to the United States, settling in New York. The captain was able to finish his education at New York State University-Binghamton, where he studied engineering. After completing school in 2000, he said he decided to serve his adopted country and was commissioned in the Air Force.

"I had a lot of admiration and respect for the military," Capt Alsali said. "I still remember the names and the faces of the soldiers who helped us in the refugee camp."

The captain looks forward to a time when he and his family can visit a peaceful Iraq, and said the situation in the country is constantly evolving for the better.

"For me, it's an honor to come back here and serve and be a part of the history that is happening here."



# SATOC Contract Award Announced

The Air Force recently announced the award of a \$4B indefinite delivery/indefinite quantity construction contract. The S/R&M Acquisition Task Order Contract, or SATOC, was awarded in early January to the following 16 companies: AMEC Earth and Environmental, Inc., Plymouth Meeting Pa.; CDM/Cape JV Constructors Inc., Cambridge Mass.; CH2M-Hill Facilities and Infrastructure, Inc., Englewood, Calif.; Earthtech Inc., Long Beach, Calif.; ECC, Burlington, Va.; Innovative Technical Solutions Inc., Walnut Creek, Va.; Jacobs Government Services CO., Pasadena, Calif.; Parsons Infrastructure and Technology Group, Inc., Pasadena, Calif.; Perini Corp, Farmington, Mass.; Toltest, Maumee, Ohio, North Wind, Idaho Falls, Idaho; SEI Group, Inc., Huntsville, Ala.; Barlovento, LLC, Dothan, Ala.; J2 Engineering, Tampa, Fla., Charter Environmental, Wilmington, Mass.; and DWG and Associates, Bluffdale, Utah.

The SATOC program has an established ceiling of \$4 billion and will meet Headquarters Air Force Civil Engineer Support Agency customer requirements worldwide, including locations in remote, austere, and hostile environments. The multi-award contract provide alternative pricing arrangements (e.g., Firm Fixed Price and Cost Plus Fixed Fee) and support delivery methods, including turn-key; design build/design build plus; concept work plan/implementation work plan; and design-bid-build; as well as incidental maintenance activities.

"SATOC gives HQ AFCESA the in-house capability to respond to any construction requirement, and provides us with all delivery method options currently practiced in construction," said Mr. Kenneth Gleason, Chief, SR&M Division, HQ AFCESA, Tyndall AFB, Fla.

## Airmen Provide Labor, Expertise to Army

"Making it Better" is the mantra for the Airmen of the 732nd Expeditionary Civil Engineer Squadron, Detachment 6, Balad AB, Iraq. These combat Airmen are deployed to Logistic Support Area Anaconda to provide horizontal and vertical construction capabilities to the 92nd Engineer Combat Battalion (Heavy).

As "in-lieu-of" Airmen, they are a vital component to enhancing the force beddown and combat capabilities of the Army engineers. Recently, Detachment 6 completed a much needed ammunition storage point on LSAA. The team began construction in June and 8,880 labor-hours later, they delivered two hardened operating facilities for receiving, maintaining, and distributing munitions used in the war on terror.

To bring the area up to grade, the team hauled approximately 7,000 cubic yards of fill material salvaged from unused earthen berms at the ammo site. The team raised the site two feet and built a water retention pond eliminate flooding problems common in the winter months.

Then the team began construction of B-1 revetments. This labor-intensive phase required additional personnel. The response to the request for volunteers was outstanding and the expanded "Dirt Boyz" shop erected 915 linear feet of 10-foot revetment for a blast deflection wall and two operating facilities, each containing 9,800 square feet of hardened storage space. Construction was completed 20 days ahead of schedule.

TSgt Simon Wess, 4th CES/CEOPE

After the backbreaking task of building the revetments, the crew was anxious to get started on the concrete portion of the job. The entire project was designed with concrete of varying depths, reinforced with #5 rebar on 1-foot centers. These construction requirements posed a new set of challenges for the team, but they established early-on that this mission would be completed on their watch.

The CEs poured concrete every other night for three weeks. On two occasions, they poured an amazing 150 cubic meters in one night. In all, the team placed over 1,100 cubic meters of concrete. The project was completed with final grading and the installation of two access roads.

An immediate benefit of this project was the protected area for the Army's storage and distribution of ammunition. A long-term benefit is the invaluable knowledge and experience the CEs gained.

"This project gave us more equipment time and concrete experience in the last three months than I have had in three years in the Air Force," said SrA Casey Bennin, an equipment operator on the team. "That and knowing all our hard work will help to get ammo to the Soldiers safer and faster makes it all worth it."

*TSgt Wess is the NCOIC, Pavements and Equipment, 4th CES, Seymour Johnson AFB, NC. He was the NCOIC of Pavements and Equipment for the 732nd ECES/DET 6.*

***In 1967, the Air Force Civil Engineer magazine carried an article entitled, “This Air Force Colonel Wears Four Hats...and with them he is making history in Air Force construction in South Vietnam.” The colonel was Archie S. Mayes (later promoted to brigadier general), one of the true pioneers in Air Force civil engineering whose career touched some of the most important events in Air Force history.***

## **This Engineer Wore Many Hats**

Dr. Ronald B. Hartzler, HQ AFCESA/CEBH

Brig Gen Mayes began his military career in the Missouri National Guard, joining in 1938. Because he had some college, he was selected for Officer Candidate School. In 1944 he sailed to Europe as operations officer with the 160th Engineer Combat Battalion. Following a stopover in England, he landed in France shortly after the D-Day invasion. Over the next nine months, the battalion conducted 43 river assault crossings and repaired blown overpasses and Autobahn bridges for Gen George Patton's Third Army.

In 1949, the newly formed Air Force selected Mayes as a reserve lieutenant colonel. He held the position of air installation officer at three successive bases — Castle, Fairchild, and Loring. At Fairchild, he encountered an organization of undisciplined Airmen and unqualified and unproductive civilians. He also encountered Capt John Peters, a fellow officer who became a lifelong friend. Together, they straightened out and improved the unit; they also wrote one of the earliest snow removal programs. As an AIO, Brig Gen Mayes helped establish many of the procedures that guide base civil engineer operations today. He also assembled a team that wrote Strategic Air Command's Regulation 85-1 to provide base civil engineer guidance for SAC engineers.

In 1955, Brig Gen Mayes served at Eighth Air Force and later as base commander at Goose Bay, Labrador. After graduating from the Industrial College of the Armed Forces, he moved to HQ Tactical Air Command as the deputy chief of staff, civil engineering. This position prepared him to serve as director of civil engineering for 2d Air Division







Previous page: Then-Col Mayes tours the Tuy Hoa construction site.

This page. Top: Then-Maj Mayes (3rd from right) with some of his men near a bridge they built over the Danube in WWII. Bottom: Brig Gen Mayes (left) and Brig Gen Peters have been among the most active members of the Civil Engineering Founders. They often attend RED HORSE reunion meetings and are frequent guests of MAJCOM/A7s to address their staff.



(later re-designated as Seventh Air Force) in January 1966. Here he was given authority over all CE units in Vietnam.

This 18-month tour became the basis for the 1967 article on Brig Gen Mayes, as he gradually accumulated four hats. For the first, he was responsible for CE support at the nine bases throughout the country. For the second, he headed the Air Force Regional Civil Engineer—Republic of Vietnam to provide direct coordination in matters pertaining to planning, programming, construction criteria design review, and construction surveillance. The third hat was directing the work of the RED HORSE squadrons in country (once established, the 1st Civil Engineer Group assumed this responsibility). He gained his fourth hat when the Air Force accepted responsibility for the construction of Tuy Hoa AB — the one base in Vietnam where the Air Force was given total responsibility for its construction. It was not only a high-profile project, it also faced a tight schedule and severe constraints on labor, transportation, and equipment. To head the Project

Turnkey office, Brig Gen Mayes turned to his old friend, then Col Peters, who also handled much of the RED HORSE planning work.

The construction of Tuy Hoa AB was one of the highlights of Air Force civil engineering history. The contract was signed on May 31, 1966, with initial operational capability scheduled for Dec. 31. The Air Force met the tight schedule with a new concept to accelerate construction: laying a 9,000-foot runway with AM-2 and operating from it while building a parallel concrete 9,500-foot permanent runway. The AM-2 runway then became a taxiway.

Site selection was a key factor in the project's success. On the coast of Vietnam, Tuy Hoa allowed all supplies, materials, and equipment to be stored on ships and brought in over the beach as needed. The contractor's camp was sited so it would later be used for permanent party military housing. Contractors began laying the AM-2 matting at a rate of 600-800 linear feet a day and teamed with members of the 820th RHS to construct hangars, warehouses, and other facilities. Tuy Hoa was high on his list of priorities, so Brig Gen Mayes made frequent site visits to assess the progress. To everyone's satisfaction and to no civil engineer's surprise, the first fighter aircraft landed on the AM-2 matting runway on Nov. 15, six weeks ahead of schedule.

In July 1967, he took off his four hats and pinned on general's stars, but stayed in the Pacific theater. At HQ Pacific Air Forces Command, he kept a watchful eye over CE activities in Southeast Asia. The North Korean

capture of the USS Pueblo brought about a large deployment of men and aircraft to South Korea, where Prime BEEF teams and the newly established 557th RHS accomplished much of the beddown work.

He capped his military career by returning to SAC to serve as deputy chief of staff for Civil Engineering from 1969-73. While there, he tested a new logistics system, Contractor Operated Civil Engineering Supply Stores, for giving BCEs the supplies they needed to get the job done.

Although he achieved a great deal while serving with the Army and Air Force, he once jokingly noted that one of his "greatest" accomplishments was making general officer without ever having to serve a tour in the Pentagon.

After retiring from active duty in 1973, he returned to his BCE roots, but this time for the huge Dallas-Fort Worth Airport nearing completion., "It was very wonderful because I was able to set up a BCE organization without a book," said Brig Gen Mayes. He retired as the airport's first Director of Facilities Maintenance in 1986.

As part of our "Greatest Generation," Brig Gen Mayes saw action with Gen Patton in World War II, wrote the book on base civil engineer operations in the 1950s, and made history while proudly wearing his four hats in Vietnam. He helped shape the civil engineer function in a way that still influences the younger members of today's Air Force.

*Dr. Hartzer is the Air Force Civil Engineer Historian at HQ AFCEA, Tyndall AFB, Fla.*



# Key Personnel

Mr. Dennis Firman is the new director of the Air Force Center for Engineering and the Environment, Brooks City-Base, Texas. He succeeds Mr. Paul Parker who is now the Deputy Air Force Civil Engineer in Washington, D.C.

Mr. Firman was formerly the Chief, Design and Construction Division, Installations and Support Directorate, Headquarters Air Combat Command Headquarters, Langley AFB, Va. He began his career in 1975 as a civil design engineer at Langley, and has served tours at Kadena and Misawa ABs in Japan and at Tyndall AFB, Fla., where he was executive director of the Air Force Civil Engineer Support Agency for five years.



A native of Virginia, Mr. Firman has a B.S. in structural engineering from Old Dominion University and a Master's in public administration from Auburn University. He is also a graduate of the Air War College, Maxwell AFB, Ala. He is a registered professional engineer in the Commonwealth of Virginia.

Col Dave C. Howe (Brigadier General-select) is now the Director, Logistics Installations and Mission Support, Headquarters United States Air Forces in Europe, Ramstein AB, Germany. He was the Deputy Director of Installations and Mission Support for HQ USAFE.

Col Theresa C. Carter is now the Director, Installations and Mission Support, Headquarters Air Mobility Command, Scott AFB, Ill. She was formerly Commander, 78th Air Base Wing, Robins AFB, Ga. She replaces Col Leonard A. Patrick (Brigadier General-select) who is now Commander, 37th Training Wing, Lackland AFB, Texas.

## Senior Leaders Meet in San Antonio

text & photo by Gil Dominguez, HQ AFCEE



The annual Senior Leaders Meeting, a gathering of all the top civil engineers from the Air Force major commands and field-operating agencies, was held in San Antonio in December.

Building on the accomplishments of last year's meeting, the weeklong event was titled "Honoring Our Past, Transforming to Meet the Future, II."

Discussions were varied, covering overseas deployment requirements to energy conservation on Air Force installa-

tions, but a recurring topic was transformation of the civil engineer field.

In his presentation, Maj Gen Del Eulberg, the Air Force Civil Engineer, said that "CE transformation is about people" and stressed the need to "maximize the talent of our 60,000 civil engineers, both military and civilian, and utilize them more efficiently." He emphasized that with the added challenge of the Global War on Terrorism, the task for

the CE community is to "transform without compromising service" while also taking "care of our people."

## Subscriptions Available for AFCE

Individual subscriptions to the *Air Force Civil Engineer* magazine are available from the U.S. Government Printing Office's Online Bookstore at <http://bookstore.gpo.gov/>.

# CE Wins Sijan Award

SMSgt Dave Ayers , 366th CES/CED



Being singled out as an outstanding leader in the midst of an Air Force full of exceptional leaders can be one of the highest honors bestowed upon an Airman.

That honor was recently presented to TSgt Joshua King, 366th Civil Engineer Squadron Airborne Explosive Ordnance Disposal team, when he was selected as the 2007 Lance P. Sijan U.S. Air Force Leadership Award winner in the junior enlisted category.

TSgt King was recognized for leading his six-person EOD team through combat operations while embedded with the Army's 4th Infantry Division in Iraq. As the youngest Air

Force EOD technician to lead a Forward Operating Base team, he employed EOD equipment and explosive assets valued at more than \$2M. He led his team through 367 "outside-the-wire" combat missions without an incident. He disarmed 60 improvised explosive devices targeting Coalition forces and destroyed more than 15,000 captured munitions. He led more than 60 post-blast investigations to recover crucial intelligence and disarmed an IED, by hand, near an occupied Iraqi grade school.

Since 1981, the Sijan Award has been given annually to Airmen who demonstrate the highest qualities of leadership in the performance of their duties and the conduct of their lives. The award honors the first U.S. Air Force Academy graduate to receive the Medal of Honor (posthumously), Capt Lance P. Sijan. He was shot down over Vietnam Nov. 9, 1967, and evaded capture for 45 days despite his severe injuries. He died while in a Vietnamese prisoner-of-war camp.

(U.S. Air Force photo)

## Air Force Sweeps International Lineman's Rodeo



At the 24th Annual International Lineman's Rodeo and Expo at Overland Park, Kan., Air Force civil engineers took the top three spots. First and third places went to the 375th CES, Scott AFB, Ill., and second went to the 366th TRS, Sheppard AFB, Texas. There were 230 teams in this year's rodeo, which features the best electrical linemen from around the world competing in four events. In the Hurtman Rescue event (left), TSgt Brian Drennan, 366th TRS, simulated the rescue of a person from high voltage lines down a 40-foot pole.

(Photo courtesy of Maj Majken Tutty)

## Travis Firefighters Are 4-Peat World Champs



A team of firefighters from the 60th Civil Engineer Squadron have done it again. For the fourth year in a row, a six-man team from Travis AFB, Calif., won the Scott World Firefighter Combat Challenge. Competing in Las Vegas in November, they

completed five tasks in 4 minutes, 37.89 seconds to win the overall team competition. "They are truly amazing," said Travis fire chief, Mr. John Speakman. "This team exemplifies the military concept of training hard and executing effectively." In the photo above, Mr. Aldrico Caragan motivates teammate SrA Ken Setty, during the team relay event at a preliminary event in Fremont, Calif.

(photo courtesy Ms. Karen Caragan)

# 2007 Air Force Civil Engineer

*In association with Society of American Military Engineers, the National Society of Professional Engineers, and the Northeast Chapter of the American Association of Airport Executives, the Air Force recently announced their 2007 Air Force civil engineer award winners. The winners (highlighted here in bold) were honored at a ceremony in Washington, D.C., in February. Runners-up are listed where applicable.*

**Outstanding Civil Engineer Unit Award and the Society of American Military Engineers Major General Robert H. Curtin Award**

*Large Unit*

**4th CES, Seymour Johnson AFB, N.C.**  
18th CEG, Kadena AB, Japan

*Small Unit*

**21st CES, Peterson AFB, Colo.**  
554th RHS, Andersen AFB, Guam

*Air Reserve Component*

**126th CES, Scott AFB, Ill.**  
934th CES, Minneapolis, Minn.

**Brigadier General Michael A. McAuliffe Award (Housing Flight)**

**341st CES, Malmstrom AFB, Mont.**  
96th CES, Eglin AFB, Fla.

**Major General Robert C. Thompson Award (Resources Flight)**

**81st CES, Keesler AFB, Miss.**  
35th CES, Misawa AB, Japan

**Brigadier General Archie S. Mayes Award (Engineering Flight)**

**8th CES, Kunsan AB, Rep. of Korea**  
319th CES, Grand Forks AFB, S.D.

**Major General Clifton D. Wright Award (Operations Flight)**

**30th CES, Vandenberg AFB, Calif.**  
27th SOCES, Cannon AFB, N.M.

**Chief Master Sergeant Ralph E. Sanborn Award (Fire Protection Flight)**

**30th CES, Vandenberg AFB, Calif.**  
3rd CES, Elmendorf AFB, Alaska

**Senior Master Sergeant Gerald J. Stryzak Award (Explosive Ordnance Disposal Flight)**

**48th CES, RAF Lakenheath, UK**  
775th CES, Hill AFB, Utah

**Colonel Frederick J. Riemer Award (Readiness & Emergency Management Flight)**

*Active Duty*

**90th CES, F.E. Warren AFB, Wyo.**  
96th CES, Eglin AFB, Fla.

*Air Reserve Component*

**482nd CES, Homestead ARB, Fla.**

**Environmental Flight Award**

**14th CES, Columbus AFB, Miss.**  
75th CEG, Hill AFB, Utah

**Major General Joseph A. Ahearn Enlisted Leadership Award**

**CMSgt Jerry W. Lewis, Jr., 1st SOCES/CEM, Hurlburt Field, Fla.**

CMSgt Keith D. Finney, 718th CEG/CEM, Kadena AB, Japan

**Major General William D. Gilbert Award**

*Officer*

**Capt Rockie K. Wilson, HQ ACC/A7X, Langley AFB, Va.**

Lt Col Peter I. Bako, HQ USAF/A7CXX, Washington, D.C.

*Enlisted*

**SMSgt Kevin W. Armstrong, HQ USAFE/A7XO, Ramstein AB, Germany**

SMSgt Eric A. Edwards, HQ AFPC/DPAA1, Randolph AFB, Texas

*Civilian*

**Mr. Joe D. Fisher, HQ ACC/A7XX, Langley AFB, Va.**

Ms. Suzanne W. Bilbrey, HQ AFCEE/IW, Brooks City-Base, Texas

**Harry P. Rietman Award (Senior Civilian Manager)**

**Mr. Donald E. Young, 14th CES/CEO, Columbus AFB, Miss.**

Mr. Mark H. Shannon, HQ USAF/A7CPE, Washington, D.C.



# Awards

## **Major General L. Dean Fox Award (Outstanding Civil Engineer Senior Military Manager)**

Maj Charles O. Kelm, HQ AFPC/DPASB,  
Randolph AFB, Texas

Maj Edward P. Phillips, 332nd AEW/USAF

## **Major General Eugene A. Lupia Award Military Manager**

1Lt Ferdinand Maldonado, 27th SOCES/CEC,  
Cannon AFB, N.M.

1Lt David J. Mogge, 1st CES/CEX, Langley AFB, Va.

### **Military Technician**

TSgt Anthony J. Blackmon, 28th CES/CED,  
Ellsworth AFB, S.D.

TSgt Kenneth D. Ahrens, 435th CES/CED,  
Ramstein AB, Germany

## **Chief Master Sergeant Larry R. Daniels (Outstanding Civil Engineer Military Superintendent)**

MSgt Kenneth T. Douglas, 31st CES/CED,  
Aviano AB, Italy

SMsGt James E. Clark, 45th CES/CEOF, Patrick AFB, Fla.

## **Outstanding Civil Engineer Civilian Manager**

Mr. Kenneth L. Helgerson, 10th CES/CEF,  
USAF Academy, Colo.

Mr. Todd R. Martin, 437th CES/CEC,  
Charleston AFB, S.C.

## **Outstanding Civil Engineer Civilian Supervisor**

Ms. Louella L. Arenas, 49th CES/CEOSM,  
Holloman AFB, N.M.

Mr. Paul O. Sugita, 422nd CES/CEF,  
RAF Croughton, UK

## **Outstanding Civil Engineer Civilian Technician**

Mr. Jesse W. Watson, 18th CES/CEOIE,  
Kadena AB, Japan

Mr. Michael C. McCartney, 316th CES/CEF,  
Andrews AFB, Md.

## **Outstanding Civil Engineer Air Reserve Component**

### **Officer Manager**

Maj James C. Wood, 315th CES/CED,  
Charleston AFB, S.C.

Col James D. Frishkorn, HQ AFCESA/CEO,  
Tyndall AFB, Fla.

### **Senior NCO Manager**

SMsGt Emery R. Talbert, Jr., 96th CES/CESE,  
Eglin AFB, Fla.

SMsGt Pamela J. Stokes, HQ AFCESA/CEXX,  
Tyndall AFB, Fla.

### **NCO Manager**

SSgt Abelardo S. Lumba, 254th CES/DES,  
Andersen AFB, Guam

TSgt Benjamin F. Prichett, 11th CES/CEOS, Bolling AFB,  
Washington, D.C.

## **Major General Augustus M. Minton Award (Outstanding Air Force Civil Engineer Magazine Article)**

Maj Matthew Hutchings, 13th SWS/MA, Clear  
AFS, Alaska

Lt Col Ellen England, 72nd AMDS/SCPB,  
Tinker AFB, Okla.

Mr. Jerry Thovson, 778th CES, Robins AFB, Ga.

Ms. Tony Hurley, 778th MDG, Robins AFB, Ga.

Dr. Joe Wander, AFRL/RXQL, Tyndall AFB, Fla.

Mr. Quinn Hart, HQ AFCESA/CES, Tyndall AFB, Fla.

## **Outstanding Community Planner**

Ms. Sarah E. Wagner, 30th CES/CECB,  
Vandenberg AFB, Calif.

Mr. Richard K. Scheuch, 336th CES/CECP,  
Mountain Home AFB, Idaho

## **Society Of American Military Engineers' Major General James B. Newman Medal**

Col John. L. Eunice III, USCENTAF/A7, Shaw  
AFB, S.C.

Mr. John D. Thompson, HQ PACAF/A7,  
Hickam AFB, Hawaii

## **Society Of American Military Engineers' Major General Guy H. Goddard Medal**

### **Active Duty**

MSgt Michael E. Yancey, 305th CES/CEOH,  
McGuire AFB, N.J.

SMsGt Brian R. Arkwright, 1st SOCES/CECS,  
Hurlburt Field, Fla.

### **Air Reserve Component**

MSgt John F. Gabriel, 624th CES,  
Hickam AFB, Hawaii

### **Air National Guard**

SSgt Andy R. Quinata, 254th CES,  
Andersen AFB, Guam

## **National Society Of Professional Engineers' Federal Engineer of the Year**

### **Military**

Maj Christopher T. Senseney, AFIT/CEX,  
Wright-Patterson AFB, Ohio

### **Civilian**

Ms. Suzanne E. Bilbrey, AFCEE/IW, Brooks  
City-Base, Texas

## **Balchen/Post Award (awarded by the Northeast Chapter of the American Association of Airport Executives for snow and ice removal)**

509th CES, Whiteman AFB, Mo.

75th CES, Hill AFB, Utah

## **Air Force Energy Conservation Award**

### **Individual**

Mr. Robert D. Montgomery, 23rd CES/CEOE,  
Moody AFB, Ga.

TSgt Joseph K. Crowait, 314th CES/CEOE,  
Little Rock AFB, Ark.

### **Group**

99th CES/CEOE, Nellis AFB, Nev.

HQ AFMC/SEM Wright-Patterson AFB, Ohio



### **Taking the measure.**

A1C Titus Baluyot, right, 1st Expeditionary RED HORSE Group, lowers a tape measure from a lift to check the height of a piece of steel attached to a K-span structure. A1C Baluyot is one of 21 Airmen assigned to Balad AB, Iraq, to build and complete finishing touches on eight semi-permanent K-span buildings.

*(photo by SSgt LuCelia Ball)*